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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/715,222	11/17/2003	Frederick L. Martin	CML01286J	4439

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Larson & Associates, P.C.
221 East Church Street
Frederick, MD 21701-5405

EXAMINER	
FILE, ERIN M	

ART UNIT	PAPER NUMBER
2611	

DATE MAILED: 10/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/715,222	MARTIN ET AL.	
	Examiner	Art Unit	
	Erin M. File	2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02 August 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-17 and 19-32* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-17 and 19-32* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *13 July 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *8/2/2006*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1-17, 19-29 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-5, 9-16, and 19-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Inuzuka (U.S. Patent No. 6,154,482) and in further view of Ben-Bassat et al. (U.S. Patent No. 6,282,232).

Claims 1, 19, Inuzuka discloses a frequency converter (202, 208) that receives the local oscillator signal and mixes the local oscillator signal with a received signal to produce a down-converted signal direct sequence (DS) spread spectrum system (col. 1, lines 11-17) encodes with a set of DSSS codes. Inuzuka further discloses the correlator of the differentially detected signal with the second set of DSSS codes is operable to mitigate effects of at least one of a frequency offset of the local oscillator signal relative to the received DSSS signal and a phase noise of the local oscillator signal (col. 6, lines 38-52). Although Inuzuka fails to teach the oscillator in fig. 12 is not a piezoelectriccrystal

oscillator, Ben-Bassat teaches a direct sequence spread spectrum half-duplex RF modem (abstract) in which the frequency source may comprise any suitable device such as a quartz crystal, ceramic resonator, SAW resonator, etc. (col. 10, lines 7-10). As Ben-Basssat also teaches a spread spectrum communications device in which DSSS signals are received, then it would be obvious to one skilled in the art at the time of invention that a ceramic resonator could be used in place of a crystal oscillator for the frequency source in generating a local oscillator signal.

Claim 2, 20, inherits the limitations of Claim 1. Further, Inuzuka discloses the differential detector (fig. 2) comprises one chip symbol delays (112), one being an integer multiple of chip periods (col. 2, 31-36).

Claims 3, 21, although Inuzuka does not explicitly state that the differentially detected-signal comprises output chips which are a function of a plurality of successive chips of the received signal, the output chips of a differential detector are by definition a function of a plurality of successive chips of the input signal.

Claim 4, the limitation of a frequency tolerance of less than approximately 0.12/T where T is the period of a chip is a design choice. Frequency tolerance is the maximum allowable frequency deviation from a specified nominal frequency at ambient room temperature, often expressed in percent (%). Ben-Bassat discloses the need for temperature stability when using resonating materials other than crystal (col. 13, lines 15-19). Because Ben-Bassat discloses the temperature must be stable, or in effect within a certain percent of the ambient room temperature, the limitation of .12/T as the frequency tolerance value is used for maintaining a stable temperature, which Ben-

Bassat discloses. Applicant has not disclosed that .12/T provides an advantage beyond temperature stability, is used for a particular purpose other than temperature stability, or solves a stated problem other than temperature stability.

Claim 5, the frequency generator as disclosed by Ben-Bassat is a resistive-capacitive (RC) type oscillator (fig. 5).

Claim 9, inherits the limitations of Claim 1, further Inuzuka discloses the down-converted signal comprises a baseband signal (col. 1, lines 60-65).

Claim 10, inherits the limitations of Claim 1, further Inuzuka discloses the down-converted signal comprises an intermediate frequency (IF) signal (col. 1, lines 39-41).

Claims 11, 12, 23, 25-28, inherit the limitations of Claim 1, further Inukuza discloses an aspect of the invention is also transmitting a spread spectrum modulated signal on a carrier (col. 4, lines 10-13).

Claim 13, inherits the limitations of Claim 1, Inukuza discloses differential decoding circuits (fig. 12, 205, 211) includes a processor that receives the down-converted signal and produces output chips therefrom which are a function of a plurality of successive chips of the received DSSS signal (col. 13, line 65- col. 14, line 5).

Claim 14, inherits the limitations of Claim 13, Inukuza further discloses correlating output chips at the output of the processor to at least one spread spectrum code that has been derived from the received spread spectrum signal (col. 13, line 65- col. 14, line 5).

Claim 15, Ben-Bassat discloses an RF source that generates a transmitter carrier signal, wherein the RF source comprises an oscillator that generates the RF transmitter carrier signal without use of a piezoelectric element;
and a DSSS modulator which modulates a message to be transmitted onto the transmitter carrier signal using at least one known DSSS code word.
Claims 16, 22, the frequency generator as disclosed by Ben-Bassat is a resistive-capacitive (RC) type oscillator (fig. 5).
Claim 24, Ben-Bassat teaches a direct sequence spread spectrum half-duplex RF modem (abstract) in which the frequency source may comprise any suitable device such as a quartz crystal, ceramic resonator, SAW resonator, etc. (col. 10, lines 7-10). As Ben-Basssat also teaches a spread spectrum communications device in which DSSS signals are received, then it would be obvious to one skilled in the art at the time of invention that a ceramic resonator could be used in place of a crystal oscillator for the frequency source in generating a local oscillator signal.
Claim 29, Inuzka discloses a frequency converter (202, 208) that receives the local oscillator signal and mixes the local oscillator signal with a received signal to produce a down-converted signal, a direct sequence (DS) spread spectrum system (col. 1, lines 11-17) encodes with a set of DSSS codes, differential detectors (205, 211) that receive the down-converted signals, correlation circuits (207, 213) receive differentially detected signals and correlate with a predetermined code (col. 14, lines 6-14). Inuzuka further discloses the correlator of the differentially detected signal with the second set of DSSS codes is operable to mitigate effects of at least one of a frequency offset of the local

oscillator signal relative to the received DSSS signal and a phase noise of the local oscillator signal (col. 6, lines 38-52). Inukuza further discloses an aspect of the invention is also transmitting a spread spectrum modulated signal on a carrier (col. 4, lines 10-13). Although Inuzuka fails to teach the oscillator in fig. 12 is not a piezoelectriccrystal oscillator, Ben-Bassat teaches a direct sequence spread spectrum half-duplex RF modem (abstract) in which the frequency source may comprise any suitable device such as a quartz crystal, ceramic resonator, SAW resonator, etc. (col. 10, lines 7-10). As Ben-Basssat also teaches a spread spectrum communications device in which DSSS signals are received, then it would be obvious to one skilled in the art at the time of invention that a ceramic resonator could be used in place of a crystal oscillator for the frequency source in generating a local oscillator signal. Further the limitation of a frequency tolerance of less than approximately 0.12/T where T is the period of a chip is a design choice. Frequency tolerance is the maximum allowable frequency deviation from a specified nominal frequency at ambient room temperature, often expressed in percent (%). Ben-Bassat discloses the need for temperature stability when using resonating materials other than crystal (col. 13, lines 15-19). Because Ben-Bassat discloses the temperature must be stable, or in effect within a certain percent of the ambient room temperature, the limitation of .12/T as the frequency tolerance value is used for maintaining a stable temperature, which Ben-Bassat discloses. Applicant has not disclosed that .12/T provides an advantage beyond temperature stability, is used for a particular purpose other than temperature stability, or solves a stated problem other than temperature stability.

Claims 30, 31, Inuzuka further discloses differential detectors (205, 211) that receive the down-converted signals correlation circuits (207, 213) receive differentially detected signals and correlate with a predetermined code (col. 14, lines 6-14)

4. Claims 6-8 ,17, and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Inuzuka (U.S. Patent No. 6,154,482) and in further view of Ben-Bassat et al. (U.S. Patent No. 6,282,232) and in further view of Hartman et al. (U.S. Patent No. 6,340,649).

Claims 6, 17, Hartmann discloses comprising means for initial adjustment of the frequency of the RF transmitter carrier signal ([0021], lines 14-19). Because Ben-Bassat discloses the need for temperature variation control in resonating materials, it would have been obvious to one skilled in the art at the time of invention to incorporate Hartman's frequency compensation method into the combined inventions of Inuzuka and Ben-Bassat.

Claim 7, Although neither Inuzuka nor Ben-Bassat disclose a compensation circuit that compensates the RF source against changes in temperature, Ben-Bassat does disclose the need for temperature stability when using resonating materials other than crystal (col. 13, lines 15-19). Hartman discloses comprising means for initial adjustment of the frequency of the local oscillator signal in response to temperature conditions ([0021], lines 14-19). Because Ben-Bassat discloses the need for temperature variation control in resonating materials, it would have been obvious to one skilled in the art at the time

of invention to incorporate Hartman's frequency compensation method into the combined inventions of Inuzuka and Ben-Bassat.

Claim 8, the compensation as disclosed by Hartman allows for multiple frequency conversion ([0021], lines 14-19).

Claim 32, Although Ben-Bassat fails to disclose a compensation circuit that compensates the RF source against changes in temperature, Ben-Bassat does disclose the need for temperature stability when using resonating materials other than crystal (col. 13, lines 15-19). Hartmann discloses a compensation circuit that compensates the RF source against changes in temperature ([0021], lines 14-19). Because Ben-Bassat discloses the need for temperature variation control in resonating materials, it would have been obvious to one skilled in the art at the time of invention to incorporate Hartman's frequency compensation method into the combined inventions of Inuzuka and Ben-Bassat.

Claim Objections

5. Claims 31 are objected to because of the following informalities: The second Claim 31 should be labeled Claim 32. Appropriate correction is required.

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Erin M. File whose telephone number is (571)272-6040. The examiner can normally be reached on M-F 10:00-6:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad Ghayour can be reached on (571) 272-3021. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Erin M. File

EMF

10/13/2006

JAY K. PATEL
SUPERVISORY PATENT EXAMINER